

Exam 1 - Microeconomics
Economics 121 A & B – Fall Semester 1996
Prof. Anthony D. Becker
October 24, 1996

Name: _____

The exam is “closed note, closed book;” the use of either books or notes is not allowed.

You may use a calculator.

There are six questions worth a total of 100 points. Half of the material is from the quizzes with minor alterations. The other half is new material.

A score of 90% or better on the old material will assure you of at least a “B” on this exam.

Question Number	Topic	Points for Old Material	Points for New Material
1	Production and Trade (Quiz 1)	5	10
2	Elasticity (Quiz 3)	15	10
3	Purely Competitive Firm (Quiz 4)	15	0
4	Firm with Market Power (Quiz 5)	15	0
5	Market Power, Externalities, Antitrust	0	10
6	Pure Competition, Short & Long Runs	0	20
Totals		50	50
		Grand Total	100

Pledge:

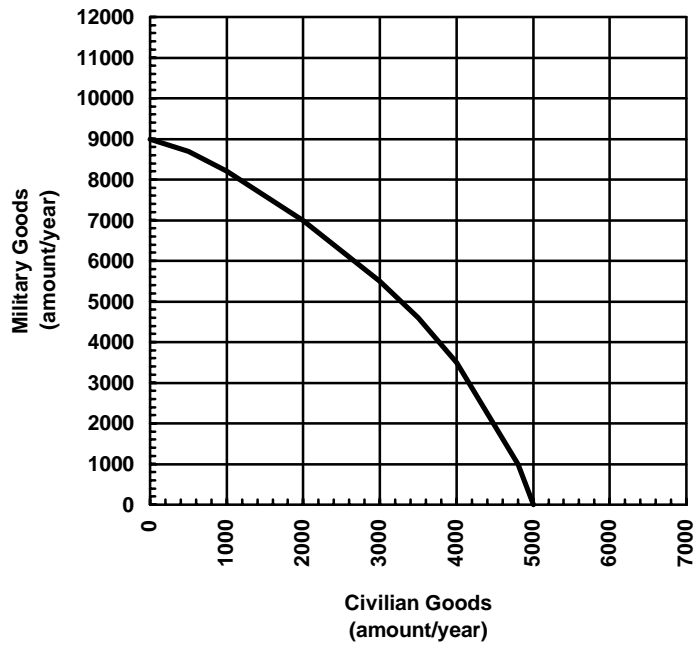
I pledge my honor that during this quiz I neither gave nor received assistance and that I saw no dishonest work.

Signed: _____

1. (15 points) A small country produces food and textiles according to the production possibilities frontier (PPF) shown in the graph.

Current production is 4,000 of civilian goods and 3,500 of military goods.

(a) (5 points) Estimate the current opportunity cost of civilian goods in terms of military goods from the graph.



(b)* (5 points) Suppose this country receives 1,000 of civilian goods per year as “humanitarian aid” from the United States. Show the effect on the PPF in the graph of this aid.

(c)* (5 points) Based on your answer to (b), how much more military goods can the leaders get without decreasing the availability of civilian goods in the economy?

2. (20 points) An article reprinted in your textbook, reports that a 10% increase in cigarette prices will lead to a 14% decline in teenage smoking. For older smokers, the same price increase will lead to a 6% to 7% decline in smoking.

(a) (5 points) Estimate and interpret the elasticity of demand for cigarettes of teenage smokers.

(b) (5 points) Estimate and interpret the elasticity of demand for cigarettes of older smokers.

(c) (5 points) Comparing these elasticities, do they seem reasonable? Explain.

(d)* (10 points) Suppose that the cigarette market is competitive and the supply of cigarettes is unitary elastic ($\epsilon = 1$). If the current price of cigarettes is \$2 per pack, is it even possible that an additional tax of \$0.20 per pack would raise price by 10%? Explain and provide a graph.

3. (15 points) A firm in a purely competitive market has costs as (partially) shown in the table below.

Output (Q)	Fixed Costs (TFC)	Variable Costs (TVC)	Total Costs (TC)	Marginal Cost (MC)	Average Fixed Cost (AFC)	Average Variable Cost (AVC)	Average Total Cost (ATC)
0			500	-	-	-	-
1		300			500	300	
2		400		100			450
3		600					
4		800		200		200	325
5				300	100	220	
6		1450					
7			2400				
8		2500	3000	600	62.5	312.5	

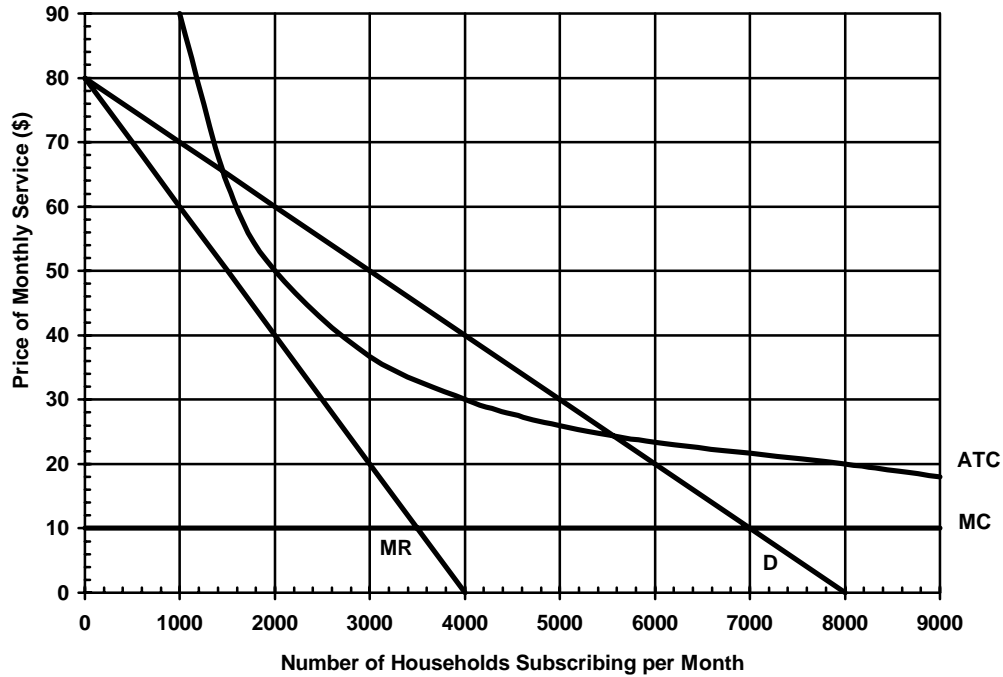
(a) (5 points) How much are the company's fixed costs?

(b) (5 points) If the market price of the firm's output is \$190, how much should the firm produce? What will its profit be?

(c) (5 points) Suppose the price of the company's output doubles to \$380. How much should the firm produce now? Is this consistent with the "Law of Supply?"

4. (15 points) When the franchise of the cable TV operator in the City of Southfield expires, the city accepts bids from companies that want to take over the service. The companies offer a monthly payment (franchise fee) as their bid and the city accepts the highest bid. While the city could ask companies to specify a maximum price for basic service, it never has.

The graph below shows the demand, marginal revenue, and cost curves for basic cable TV service in Southfield.



(a) (5 points) What price will the winning cable TV operator select for basic service? How many households will subscribe?

(b) (5 points) What price and quantity would the City of Southfield suggest the cable TV operator choose? Explain.

(c) (5 points) What is the allocatively efficient price and quantity? Why is it not feasible?

5.* (10 points) Seventeen states have filed suit against various tobacco companies seeking to recover health care expenses for tobacco-related illnesses. The Department of Defense estimates that the U.S. military loses over \$500 million each year because of tobacco-related illnesses. Clearly, tobacco use has a significant negative externality.

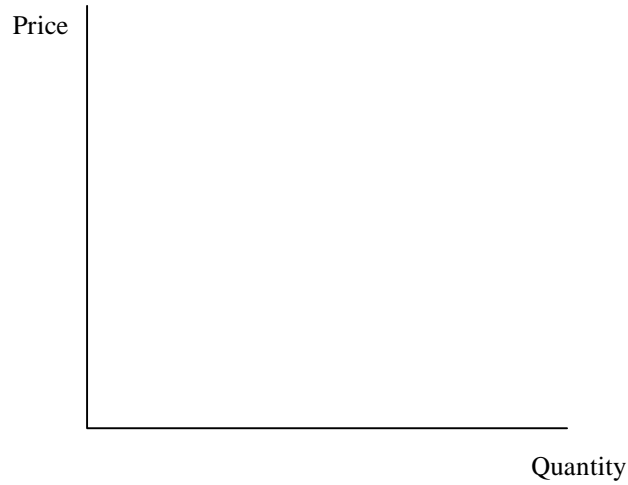
The tobacco industry is also highly concentrated: two firms produce over 70% of total industry output and the top four firms produce almost 95%. There are also significant barriers to entry. Also, tobacco companies have been accused of “conscious parallelism” in their pricing: all pricing the same (not competing) without actually meeting and having a formal agreement.

(a) (5 points) Is it likely that the price of tobacco products is well above marginal cost? Explain using concepts of elasticity and market structure in your answer.

(b) (5 points) Why might it **not** be in the public interest to use the antitrust laws to either break up tobacco companies or to prevent them from engaging in parallel pricing behavior.

6.* Many candidates have proposed a system of school vouchers as a cure for poor public schools and to increase “school choice.” A voucher system would provide each kindergarten through 12th grade student with a certificate (the voucher) worth some amount – perhaps \$3,000 – to be used towards private or public school. For example, if the student attends private school, he/she would receive a \$3,000 discount from the tuition price and the school would receive \$3,000 in state funds. If the student attends public school, the public school would get \$3,000.

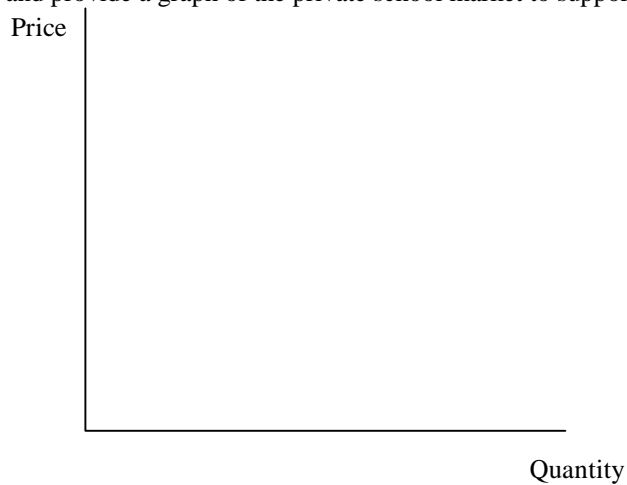
(a) (5 points) In the short run, private schools are operating at full capacity and are unable to accommodate more students. Show the effect graphically of a voucher program on the market for private school education assuming the market is competitive.



(b) (5 points) Based on your answer to (a), In the **short run** will more students be able to attend private schools under a voucher program? Explain why or why not.

School Vouchers, continued.

(c) (5 points) **In the long run**, what will happen to enrollments in private schools? What will happen to enrollments in public schools? Explain and provide a graph of the private school market to support your answer.



(d) (5 points) Private schools can refuse admission to students on academic grounds and because of special needs (private schools do not usually provide special education or remedial classes). What will happen to the quality of public education, as measured by student achievement, under a voucher system? Explain.